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China's Growing Market for Dairy Products

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China has one of the lowest levels of per capita milk consumption in the world, averaging just 5.6 kilograms (kg) per year in 2003. Consumption varies greatly by region, income level, and household location (rural or urban). Throughout the mid-1980s and early 1990s, milk consumption in urban China was stagnant, at about 4.8 kg per person, and rural consumption hovered at just 0.6 kg per person. While rural per capita consumption of dairy products grew weakly in the late 1990s, urban consumption of fresh dairy products has grown an average of 25 percent annually since 1997, reaching 15.7 kg per person in 2002. Household purchases of fluid milk, yogurt, milk powder, and ice cream are growing rapidly, and away-from-home consumption of cheese has risen with the tide of investment by western-style restaurant chains. The spectacular expansion of China's urban market for dairy products is driven by a combination of technology adoption, changes in retail supply chains, consumer trends, income growth, and government policies. This article summarizes findings on Chinese urban dairy markets emanating from a large CARD research project that analyzes Asian dairy markets.

A BRIEF HISTORY

Contrary to popular belief, dairy products have a long history in China, particularly in the coastal cities that were opened to foreigners in the late nineteenth century and in the pastoral regions in northern and western China. Dairy products are viewed as healthy, nutritious foods, but consumption had been hindered until recently by high prices, caused by the

lack of refrigerated transportation, inadequate household refrigeration, and limited production near coastal demand centers. Since the economic reforms initiated in 1978, several key investments in technology have increased the supply and demand for dairy products. First, introduction of modern processing technologies, including ultra-high temperature pasteurization, has greatly expanded the shelf life of dairy products. This, in turn, enabled inter-regional transportation of dairy products from surplus regions in the north to the population centers on the eastern coast. Second, the importation of dairy cattle and genetics from the United States, Canada, and Europe, as well as adoption of advanced feeding and management practices, has dramatically increased the productivity of modern dairy operations in China. Milk production in China doubled from 1996 to 2002, allowing China to surpass Australia and Japan as the third largest milk producer in Asia. Third, household incomes increased four-fold over two decades, enabling ownership of refrigerators to climb to 87 percent of urban households in 2002. Thus, households have the ability to properly store the increasingly available, high-quality milk and dairy products they purchase.

Recent innovations in retail marketing channels have also facilitated the rapid expansion of dairy markets in China. Until recently, retail markets for dairy products were localized. Home delivery networks organized by the local dairy processors dominated milk distribution and barred outside companies from significant access to consumers. However, the rapid development of regional and national supermarket chains in the 1990s and the advent of inter-regional shipments of dairy products have eroded the power of locally dominant firms and greatly increased competition. Moreover, the trend among Chinese supermarket chains toward centralized distribution and procurement will allow dairy processors to have access to consumers throughout China as individual chains expand operations. The importance of supermarkets in dairy product marketing is evident in the fact that more than half of urban Chinese households that reported milk purchases in recent surveys indicated making purchases at a supermarket. Likewise, 80 percent of households purchasing yogurt bought the products at a supermarket.

SURVEY RESULTS AND ANALYSIS

The surveys conducted in Beijing, Shanghai, and Guangzhou provide insights into the profile of urban

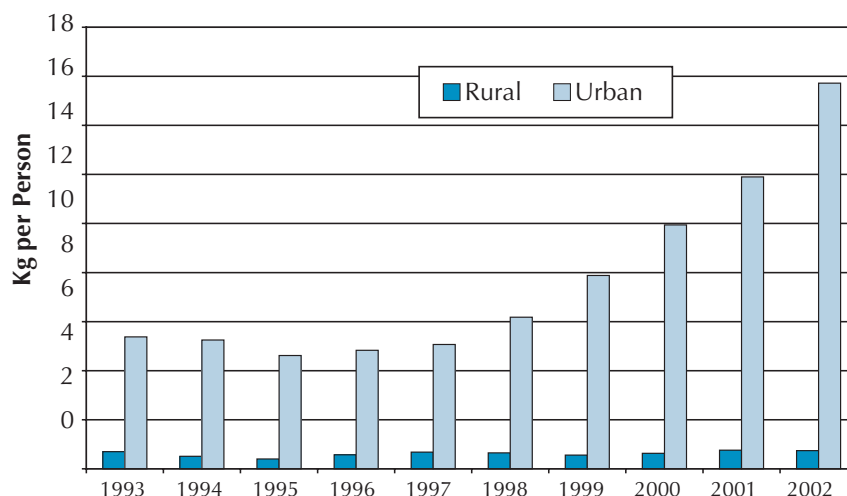


FIGURE 1. URBAN AND RURAL FRESH DAIRY PRODUCT CONSUMPTION

households purchasing dairy products. Virtually all of the households surveyed had refrigerators and purchased some dairy products, and more than 90 percent reported milk purchases. On a per capita basis, households in Beijing and Shanghai consume roughly twice as much milk than the households in the southern city of Guangzhou. Households in Beijing also reported above average yogurt consumption, and they were more likely to have increased milk and yogurt consumption in the last two years than were households in the other two cities. Chinese households purchase milk three times per week on average, buying four or five single-serving packages at a time. Other dairy products are purchased less frequently, averaging only one or two servings every two weeks. Only a handful of households reported purchases of cheese, but more than 30 percent of the sample purchased one or more cheeseburgers or other foods containing cheese each month, demonstrating the influence of the growing presence of western-style food restaurants on Chinese consumption patterns.

Statistical analysis of the data revealed that income, education, purchase location, and regional factors have, by far, the greatest impacts on dairy product consumption. Income, education, and purchases at supermarkets have a positive influence on the level of milk and yogurt consumption. Surprisingly, exposure to dairy-product advertising in news media has little effect on dairy purchase decisions, although in-store ads significantly influence yogurt purchases. The analysis also revealed that milk powder is an inferior good and is consumed more frequently by households living farther from city centers with elderly members or members that have had a doctor's recommendation to consume milk products for health reasons. Ice cream consumption is positively influenced by the household's proximity to a

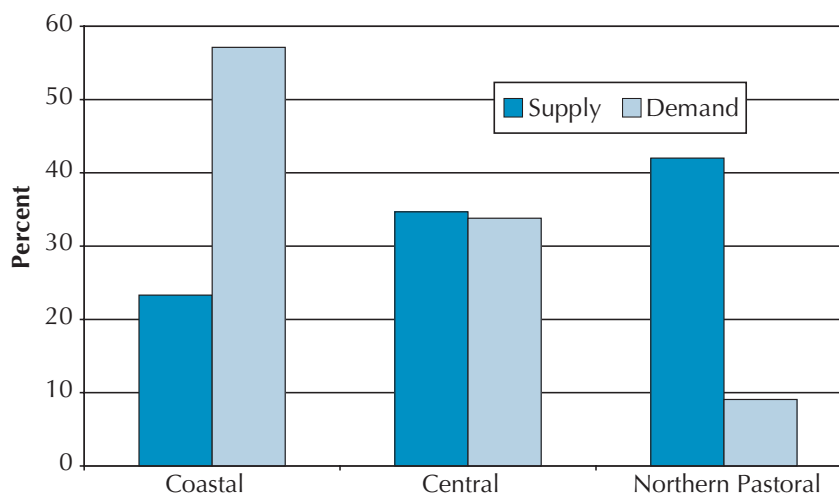


FIGURE 2. MILK SUPPLY AND DEMAND SHARES BY REGION

McDonald's restaurant (a proxy for the availability of western-style foods). The project findings confirmed previous research results based on aggregate dairy consumption data showing the positive impacts of education, better knowledge of nutrition, and greater exposure to western culture on dairy consumption. The few available estimates of income responses for milk and dairy consumption indicate that Chinese consumers tend to increase their dairy consumption faster than their income grows and faster than other food consumption.

Developments in China's dairy markets would not have been possible without the market reforms initiated by the Chinese government over the last two decades. In addition to providing the incentives for farmers to increase agricultural and food production, the market liberalization policies in the wholesale and retail sectors have enabled private and multinational firms to transform the distribution of food products in China. National, regional, and local government investments in every level of the dairy product supply chain have been critical to the expansion of milk production and the improved quality and variety of processed dairy products. The government of China has stated its intention to increase milk production by 15 to 18 percent in North China

by 2007 through additional investments in genetics, management, and processing. In addition to government support, China's dairy industry is also receiving substantial investments from multinational dairy firms based in Europe, Australia, and New Zealand.

OPPORTUNITIES

Our project's findings suggest that the recent rapid growth in dairy consumption in China is likely to continue well into the future, as household incomes rise. China's rapidly evolving domestic dairy product industry will expand to meet the bulk of those demands with the help of substantial domestic and international investment. China's imports of cheese and milk proteins are expected to increase in the coming years, but the greatest impacts on international dairy markets in the near term will be through the growing connections created by foreign direct investment in dairy product processing, distribution, and retailing. Dairy firms in Australia and New Zealand are likely to reap the greatest direct benefits because of their proximity to the Chinese market. Nevertheless, European and North American retailers and dairy multinationals are also gaining a foothold in this market to capitalize on its tremendous growth potential. ♦